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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,067	03/15/2004	Hisham Menkara	031304	1266

7590 03/23/2006

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EXAMINER

HODGES, MATTHEW P

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/801,067

Applicant(s)

MENKARA ET AL.

Examiner

Matt P. Hodges

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/15/2004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Sun et al. (US 5,677,594)

Regarding claims 1, 8-11, 13, and 15, Sun discloses the use of light emitting device including a white emitting mixture of  $\text{CaS}_y\text{Se}_{1-y}:\text{Ce}$  where  $0 \leq y \leq 1$ . (Column 4 lines 55-70). The activator would be doped in concentrations of between .0001% and 10% mol percent respectively.

Regarding claims 2, 3, and 7, the phosphor  $\text{CaS}:\text{Ce}$  is anticipated by the range disclosed by Sun.

Regarding claims 5 and 6, the phosphor  $\text{CaSe}:\text{Ce}$  is anticipated by the range disclosed by Sun.

Regarding claim 4, the phosphor  $\text{CaS}_{0.5}\text{Se}_{0.5}:\text{Ce}$  is anticipated by the range disclosed by Sun.

Regarding claim 12, Sun further discloses the use of multiple phosphors with difference activators in order to generate white light. (Column 2 line 4-16).

Regarding claim 14, Sun further discloses the use of multiple activators, for example  $\text{SrS}:\text{Ce},\text{F}$ . (See figure 2).

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Claims 1-3, 7-9, 12-22, and 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Juestel et al. (US 2002/0105266)

Regarding claims 1-3, 7-9, 12-22, and 25-28, Juestel discloses the use of light emitting diode including a white emitting phosphor mixture of (Ca,Sr)S:Eu and CaS:Ce, Eu. (Paragraphs 0028 and 0031). The activator would be doped in concentrations of between .0001% and 10% mol percent respectively. Further the diode emits light in the UV-Blue range to excite the stated phosphors.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Juestel et al. (US 2002/0105266) in view of Sun et al. (US 5,677,594)

Regarding claims 23 and 24, Juestel discloses the device as claimed (see rejection of claim 17 above) but does not appear to specify the use of the specific phosphors claimed. However Sun, in the same field of endeavor, discloses the use of the phosphor,  $\text{CaS}_y\text{Se}_{1-y}:\text{Ce}$ , where  $0 \leq y \leq 1$  in light emitting devices. The  $\text{CaS}_y\text{Se}_{1-y}:\text{Ce}$  where  $0 \leq y \leq 1$  phosphor provides a much greater range of options for the host matrix and likewise more performance options. Customization of the selected phosphors enables higher brightness and environmental

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resistances. Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate the more diverse phosphor ranges taught by Sun into the device as disclosed by Juestel in order to advantageously enable higher brightness and environmental resistances.

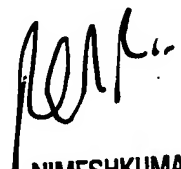
***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matt P Hodges whose telephone number is (571) 272-2454. The examiner can normally be reached on 7:30 AM to 4:00 PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mph



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